

## REMARKS

Claims 1, 2, 4 to 6, 8 to 20, 23 to 30 and 32 to 34 are pending.

Claim 1 is amended to incorporate claim 3 and claim 22 limitations. Claims 25 and 27 are amended to recite linear displacement.

Claims 1 to 34 were rejected under 35 U.S.C. §103(a) over Xiang et al., Schultz et al. and Salomaa et al. and claims 1 to 34 were rejected under 35 U.S.C. §103(a) over Xiang et al., Schultz et al., Jorgensen and Stahli.

### **I. IMPROPER COMBINATION OF REFERENCES**

The rejection of claims 1 to 34 under 35 U.S.C. §103(a) over Xiang et al., Schultz et al. and Salomaa et al. is based on an improper combination of references.

The present Office Action argues:

Relative to the urging by applicant that Salomaa is not analogous art, applicant is viewing the reference in an overly narrow manner. After all Salomaa teaches a liquid dispenser which is being used to create mixtures of at least two liquids in different proportions which is clearly what the primary Xiang reference is doing. Thus Salomaa is clearly analogous art and would show the ability to form such mixtures automatically by a plurality of positive displacement dispensers.

Office Action page 7.

First, where does Salomaa et al. teach creating “mixtures of two liquids in different proportions.” Salomaa et al. teaches diluting samples not creating mixtures. Indeed, where does Xiang teach creating “mixtures of two liquids in different proportions.” Applicant specifically requests the PTO to point out these teachings appear or withdraw the rejection. . “[W]hen the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference....” *In re Rijckaert*, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).

Second, the characterization of applicant’s argument as a non analogous art

argument is an overly simplified characterization of applicant's argument. Applicant's argument is that the PTO has not met its burden of providing the *In re Lee*, 61 USPQ 2d 1430, 277 F.3d 1338 (Fed. Cir. 2002) reasoned logic to support a combination of references. Non analogous art is only one factor to consider in this determination. And, indeed the *Salomaa et al.* dilution for an aromatic liquid transfer art is not analogous to the art of preparing mixtures for combinatorial high throughput screening. If the PTO disagrees, the PTO should provide reasoned logic why one skilled in the art of preparing mixtures for combinatorial high throughput screening art would combine a teaching of aromatic liquid transfer dilutions.

Third, it is not relevant how applicant views the references. The question is whether the PTO has met its reasoned logic to combine burden to support a combination rejection. The PTO must provide an:

...objective teaching... [that] would lead [one skilled in the art] to combine the relevant teachings of the references." *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992)

... "When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. See, e.g., McGinley v. Franklin Sports, Inc., 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001) ("the central question is whether there is reason to combine [the] references," a question of fact drawing on the Graham factors)."

....

... The Board [PTO] must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious."); *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (the examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references").

*In re Lee*, 277 F.3d 1338, \_\_\_\_\_, 61 USPQ 2d 1430, 1433-1434 (Fed. Cir. 2002).

Fourth, a teaching of a liquid dispenser which is being used to dilute liquid samples is not relevant to art that relates to forming arrays of multiple proportioned components in very small amount for parallel reaction as part of a high throughput screening process. The question the PTO must answer with reasoned logic is why would one skilled in the art of combinatorial high throughput screening have been led to combine a teaching of a device or method for serial dilution. *See* MPEP. 2141.01(a) and *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

The rejection of claims 1 to 34 under 35 U.S.C. §103(a) over Xiang et al., Schultz et al., Jorgensen and Stahl is based on an improper combination of references for the same reasons. Jorgensen relates to the preparation of solutions “for coating of sensors with membranes” for “patient monitoring” and the like. The question the PTO must answer with reasoned logic is why would one skilled in the art of combinatorial high throughput screening have been led to combine a teaching of a device or method for preparation of solutions “for coating of sensors with membranes.” *See* MPEP. 2141.01(a) and *In re Oetiker, supra*.

If the PTO cannot provide the reasoned logic to combine the references as required by *In re Lee, supra*, the rejections based on the combinations of Xiang et al., Schultz et al. and Salomaa et al. and on Xiang et al., Schultz et al., Jorgensen and Stahl. should be withdrawn.

## **II. THE REFERENCES FAIL TO ESTABLISH A PRIMA FACIE CASE OF OBVIOUSNESS**

Even improperly combined, the references do not make a prima facie case of obviousness of a precursor “displaced within a linear dynamic range of at least 5 nano-liter” (all claims). The Office Action mentions that Stahl teaches a delivery of “from 0.98 to 1.02 microliters.” However, liner dynamic range is not the same as delivery quantity. Liner dynamic range is an important parameter to delivery of the subject viscous materials; size of droplet (quantity) is not. The references do not teach or suggest a linear dynamic range of at least 5 nano-liter

The references do not make out a prima facie case of obviousness of aspirating precursor “within a linear dynamic range of at least 5 nano-liter” (claims 11 to 13). Applicant made this argument in the December 9 Request for Reconsideration. The PTO has not responded. The PTO should respond to this argument in a non-final Office Action or allow the claims.

The references do not make out a prima facie case of obviousness of a, precursor viscosity of greater than about 1 centipoise (claims 1, 2, 4 to 6, 8 to 20, 23 and 24). The PTO states “[t]hese two references (Xiang and Stahli) also clearly deal with any issues of viscosity.” “[W]hen the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the reference....” *In re Rijckaert*, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). The PTO fails to point out where any of the alleged Xiang and Stahli precursor viscosity teachings appear in the references. The PTO should respond to this argument in a non-final Office Action or allow the claims.

The references do not make out a prima facie case of obviousness of a fluid suspension of a particle size of up to about 50 $\mu$ m (claim 24). The PTO has not responded. The PTO should respond to this argument in a non-final Office Action or allow the claims.

The references do not make out a prima facie case of obviousness of a CHTS method comprising “(B) reiterating (A) wherein a successive candidate luminescence material precursor for a step (i) is selected as a result of an evaluating step (iii) of a preceding iteration of (A)” (claim 26). Applicant made this argument in the December 9 Request for Reconsideration. The PTO responded “[r]elative to claim 26 and the reiteration step see column 4 line 42 to column 5 line 45 [of Xiang].” Applicant has carefully examined Xiang, column 4 line 42 to column 5 line 45, No teaching or suggestion of “(B) reiterating (A) wherein a successive candidate luminescence material precursor for a step (i) is selected as a result of an evaluating step (iii) of a preceding iteration of (A)” (claim 26). The PTO is respectfully requested to identify and quote the

exact Xiang language that purportedly teaches “(B) reiterating (A) wherein a successive candidate luminescence material precursor for a step (i) is selected as a result of an evaluating step (iii) of a preceding iteration of (A)” (claim 26) or withdraw the rejection.

The references do not make out a prima facie case of obviousness of an assembly including a furnace and an evaluator (claim 34). The Office Action states “[l]ikewise the furnace and evaluator is [sic] covered through the temperature processing and evaluation of the libraries of Xiang.” “Temperature processing and “evaluation” are not teachings of an assembly including a furnace and an evaluator (claim 34). The PTO is respectfully requested to identify and quote the exact Xiang language that purportedly teaches an assembly including a furnace and an evaluator (claim 34) or withdraw the rejection.

"If examination... does not produce a prima facie case of unpatentability, then without more the applicant is entitled to grant of the patent." *In re Oetiker*, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The references do not teach or suggest the claim elements summarized above. "When the reference(s) cited by the examiner fail to establish a prima facie case of obviousness, the rejection is improper and will be overturned." *In re Deuel*, 34 USPQ2d 1210, 1214 (Fed. Cir. 1995). For this additional reason, the rejections of the claims should be withdrawn.

In view of the foregoing amendments and remarks, it is respectfully submitted that claims 1, 2, 4 to 6, 8 to 20, 23 to 30 and 32 to 34 are allowable. Reconsideration and allowance are requested.

Should the Examiner believe that any further action is necessary in order to place this application in condition for allowance, he is requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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## VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (amended) A method comprising mechanically positively displacing a first luminescence material precursor having a viscosity greater than about 1 centipoise with a plunger from a dispenser to a first position of an array, mechanically positively displacing a second luminescence material precursor with a plunger from a dispenser [mechanism] to a second position of an array and simultaneously reacting said first and second precursors to produce a library of candidate luminescence materials wherein the first luminescence material precursor or the second luminescence material precursor is displaced within a linear dynamic range of from greater than 5 nano-liter to about 250 micro-liter.

25. (amended) A combinatorial high throughput screening (CHTS) method for selecting a luminescence material, comprising:

(A) (i) aspirating a candidate luminescence material precursor into a hollow tube by action of a plunger; (ii) dispensing said precursor into a well of an array plate by a positive displacement action of said plunger against said precursor; (iii) effecting a reaction of said precursor to form a candidate luminescence material; and (iv) evaluating said candidate luminescence material, wherein the luminescence material precursor is dispensed by displacement within a linear dynamic range of from greater than 5 nano-liter to about 250 micro-liter..

27. (amended) A combinatorial high throughput screening liquid dispensing assembly comprising a battery of positive displacement driven dispensers for dispensing solutions of precursor luminescence materials, an array plate with wells to receive dispensed solution from said dispenser, a robotic positioning table supporting said array plate to position wells beneath respective dispensers and a controller to control dispensing of said solutions and positioning of said plate, wherein said positive displacement dispensers have a capability of displacing viscous material of greater than 1 centipoise within a linear dynamic range of greater than 5 nano-liter to about 250 micro-liter.